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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,239	06/14/2007	Tetsuzo Miki	296912USOX PCT	7366
22850	7590	03/18/2010		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER CLARK, GREGORY D				
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE		DELIVERY MODE		
03/18/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
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## Office Action Summary

**Application No.**

10/594,239

**Applicant(s)**

MIKI ET AL.

**Examiner**

GREGORY CLARK

**Art Unit**

1794

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/12)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_
- Paper No(s)/Mail Date 01/09/2007, 04/25/2008, 04/28/2009, 01/22/2010

## DETAILED ACTION

### Claim Objections

1. Claims 1, 4, 5 and 8 objected to because of the following informalities: The term triphenylamine-like represents language that renders the claims indefinite. Since Ar1-Ar3 in formula 1 can be aryl groups other than a simple phenyl group, it would be better to refer to such sub-structures as triarylamine sub-structures. Appropriate correction is required.

### Claim Rejections - 35 USC § 102

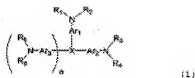
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

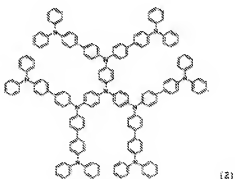
3. **Claims 1-8 rejected under 35 U.S.C. 102(b) as being anticipated by Ueda (JP 2000-063335).**

4. **Regarding Claims 1-4,** the applicant claims a compound having a molecular weight from 1500 to 6000 represented by formula 1:



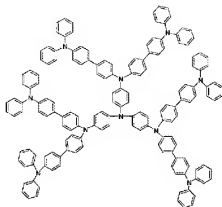
wherein X represents a single bond, CH, CH<sub>2</sub>, N or NH; Ar<sub>1</sub>, Ar<sub>2</sub> and Ar<sub>3</sub> represent a phenyl group, a biphenyl group or a terphenyl group; R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub> and R<sub>6</sub> each independently represent an aryl group, wherein the aryl group may be substituted with a diarylamino group so as to form a triphenylamine moiety structure, and further the terminal aryl groups may be substituted with a diarylamino structure group-containing group so as to form a triphenylamine-like moiety structure repeatedly; n is 6 or 1.

The examiner notes that applicant shows formula 2 in the specification on page 18 as a preferred example of formula 1:



Ueda discloses an arylamine compound represented by formula U-1 (paragraph

42):



Formula U-1 reads on applicants' formula --where the central N atom corresponds to applicants' X group, the biphenyl groups correspond to applicants' Ar1-Ar3, the external phenyl groups correspond to applicants' R1-R6 and  $n = 1$ . Formula U-1 is identical to applicants' formula 2 and has a molecular weight (MW) of  $\sim 1,976$  g/mole. The applicant claims a MW range of 1500-6000.

Formula U-1 has 10 nitrogen atoms (per claims 2 and 3) and 9 triphenylamine sub-structures (per claim 4).

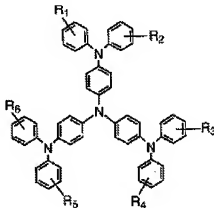
5. **Regarding Claims 5-8**, Ueda discloses an organic electroluminescent element containing an organic compound (formula U-1, MW 1,976) in a layer between two electrodes (paragraphs 6 and 7). Formula U-1 reads on applicants' formula 1 as discussed above in section 4.

Formula U-1 has 10 nitrogen atoms (per claims 6-7) and 9 triphenylamine sub-structures (per claim 8).

6. **Claims 1-8 rejected under 35 U.S.C. 102(b) as being anticipated by Inoue (JP 10-284252).**

7. **Regarding Claims 1-4,** the applicant claims a compound having a molecular weight from 1500 to 6000 represented by formula 1 above.

Inoue discloses a compound represented by formula I-1 (paragraph 17):



R<sub>1</sub>-R<sub>6</sub> can be diarylamino groups (paragraph 18) and the aryl groups can be phenyl groups (paragraph 28, table 2, No. 19) which gives a MW of ~ 1, 748. The applicant claims a MW range of 1500-6000.

Formula I-1 reads on applicants' formula 1 where the central N atom corresponds to applicants' X group, the phenyl groups bonded to the central nitrogen atom correspond to applicants' Ar<sub>1</sub>-Ar<sub>3</sub>, the external phenyl groups correspond to applicants' R<sub>1</sub>-R<sub>6</sub> and n = 1.

Formula I-1 has 10 nitrogen atoms [paragraph 28, table 2, No. 19] (per claims 2 and 3) and 9 triphenylamine sub-structures (per claim 4).

8. **Regarding Claim 5-8**, Inoue discloses an organic electroluminescent device with organic layers between anode and a cathode (called negative pole by applicant) (paragraph 36). The triaryl amine compound (formula I-1) is located in at least one of the organic layers (abstract). Formula I-1 reads on applicants' formula 1 as discussed above in section 7.

Formula I-1 has 10 nitrogen atoms (per claims 6-7) and 9 triphenylamine sub-structures (per claim 8).

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY CLARK whose telephone number is (571)270-7087. The examiner can normally be reached on M-Th 7:00 AM to 5 PM Alternating Fri 7:30 AM to 4 PM and Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/  
Supervisory Patent Examiner, Art Unit 1794

GREGORY CLARK/GDC/  
Examiner  
Art Unit 1794